Green Roofs

Green roofs are made up of a top vegetative layer that grows in an engineered soil, which sits on top of a drainage layer. A green roof can be intensive, with thicker soils that support a wide variety of plants, or extensive, covered in only a light layer of soil and minimal vegetation.

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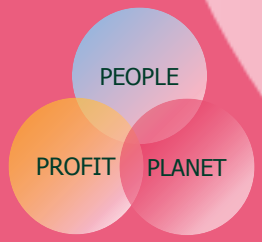
Erosion Control and
Stormwater Management

"A building should consume its own waste, maintain itself, match nature's pace, provide wildlife habit, moderate climate and weather, and be beautiful"

Malcom Wells



- http://www.binghamton-ny.gov/stormwater-management
- http://www.binghamton-ny.gov/ordinance/erosion-control

STORM WATER

STORMWATER IS MANAGED USING STORM SEWER AS WELL AS BEST MANAGEMENT PRACTICES, WHICH INCLUDE GREEN INFRASTRUCTURE AND LOW IMPACT DEVELOPMENET

References and Additional Resources

- *"Living Walls: A Way to Green the Environment" Susan Loh, Australian Council of Built Environment Design Professionals, August 2008*
- http://recovergreenroofs.com/wp-content/uploads/2012/06/RecoverGreenRoofs_Trifold-Pamphlet.pdf
- http://www.cnt.org/sites/default/files/publications/CNT_Value-of-Green-Infrastructure.pdf
- http://www.spur.org/news/2013-08-08/8-shades-green-infrastructure
- http://www.dec.ny.gov/docs/water_pdf/bsdcomplete.pdf
- https://www.asla.org/ContentDetail.aspx?id=43536
- http://www.haas-la.com/green-roof.html
- http://www.binghamton-ny.gov/ordinance/erosion-control
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- http://www.binghamton-ny.gov/departments/planning-housing-community-development/planning-housing-community-development
- http://www.binghamton-ny.gov/stormwater-management

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City of Binghamton

Informational Brochure

GREEN ROOFS

BLUE ROOFS / GREEN WALLS

GREEN ROOF AT 2 COURT ST.
DESIGN BY HAAS LANDSCAPE ARCHITECTS

Benefits

Green roofs can be effectively used to reduce stormwater runoff from commercial, industrial, and residential buildings. In contrast to traditional asphalt or metal roofing, green roofs absorb, and store, thereby reducing discharge to a storm sewer system. In addition to stormwater management, green roofs offer a number of benefits like:

- Reduces energy use,
- Improves ambient air quality (due to air filtration and pollutant absorption),
- Reduces atmospheric CO_2,
- Reduced ambient temperatures in urban areas (due to heat island effect),
- Improves community livability,
- Improves habit,
- Noise reduction,
- Extended roof service life, and
- Cultivates public education opportunities.

The City of Binghamton offers a **50/50 Stormwater Management Grant** that will assist landowners in implementing green infrastructure practices to fulfill and exceed requirements set forth in an Erosion Control and Stormwater Ordinance.

Types

Green roofs can be installed on many types of roofs, from small slanting roofs to large, flat commercial roofs.

There are two basic types of green roofs: extensive and intensive.

An extensive green roof system is a thin, lighter-weight system (usually less than 6 inches deep) planted predominantly with drought-tolerant succulent plants and grasses.
An intensive green roof is deeper, often 18 inches, and can support plants that require great root depth.

Where it works: commercial, residential, multifamily and industrial structures, as well as garages and sheds.

Green Roof
at Discovery Center — Story Garden.
Design by HAAS Landscape Architects.

Other Types

Blue Roofs

Blue roofs are designed without vegetation for the primary purpose of detaining stormwater. Weirs at the roof drain inlets create temporary ponding and gradual release of stormwater.

Green Walls

"Green walls" is used to refer to all forms of vegetated wall surfaces.
These include green façade (plants growing onto and over specially designed supporting structures), living walls (distinct wall panels that include growing medium or liquid nutrient)
Green walls include most of the benefits of green roofs, but also:

- Temperatures behind green walls can be reduced by as much as 50° F.
- Green walls can help reduce sound reflection
- Through shading, green walls can lower temperatures in summer and reduce energy costs by 23 percent.